

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application. Please add the words shown by underline and delete the words shown by strikethrough.

1.-45. (Canceled)

46. (Currently amended) A method of maintaining ~~stabilizing~~ a human embryonic stem ~~pluripotent~~ cell culture in an undifferentiated state, comprising:

- a. providing a human embryonic stem ~~pluripotent~~ cell culture; and
- b. contacting the human embryonic stem ~~pluripotent~~ cell culture with an inhibitor of at least one component of the gamma-secretase complex

to thereby ~~stabilize~~ maintain the human embryonic stem ~~pluripotent~~ cell culture in an undifferentiated state.

47. (Canceled)

48. (Canceled)

49. (Canceled)

50. (Currently amended) The method of Claim 46, wherein the inhibitor of at least one component of the gamma-secretase complex is selected from the group consisting of N-[N-(3,5-Difluorophenacetyl-L-alanyl)]-S-phenylglycine t-Butyl Ester (DAPT) ~~non-transition-state analogues~~, transition state analogs, helical peptides containing α -aminoisobutyric acid, Fenethylamine Sulfonamide compounds, NSAIDs, and benzodiazepines.

51. (Currently amended) The method of Claim 50, wherein the inhibitor of at least one component of the gamma-secretase complex comprises N-[N-(3,5-Difluorophenacetyl-L-alanyl)]-S-phenylglycine t-Butyl Ester (DAPT).

52. (Withdrawn) The method of Claim 50, wherein the inhibitor comprises a transition state analog selected from the group consisting of III-31-C, L-685,458, and a substrate-based difluoroketone peptidomimetic.

53. (Withdrawn) The method of Claim 52, wherein the substrate-based difluoroketone peptidomimetic is DFK-167.

54. (Canceled)

55. (Currently amended) The method of Claim 46, wherein the human embryonic stem cell culture is maintained in an undifferentiated ~~cells are stabilized in a pluripotent~~ state for at least 10 passages.

56. (Currently amended) The method of Claim 55, wherein the undifferentiated ~~pluripotent~~ state of the human embryonic stem cell culture is determined by expression of SSEA4 and Notch1 in at least approximately 60% of the cells.

57. (Currently amended) The method of Claim 46, wherein less than approximately 20% of the human embryonic stem cells express HNF4alpha after approximately 10 passages.

58. (Withdrawn) The method of Claim 46, wherein the inhibitor is expressed from a feeder cell layer.

59. (Withdrawn) The method of Claim 58, wherein the feeder cell layer is genetically engineered to express the inhibitor.

60. (Currently amended) The method of Claim 46, wherein the inhibitor of at least one component of the gamma-secretase complex inhibits Notch signaling in the human embryonic stem ~~pluripotent~~ cells.

61. (New) The method of Claim 51, wherein the DAPT is used at a concentration of 50 μ M.

62. (New) A method of inhibiting the differentiation of a human embryonic stem cell culture, comprising:

- a. providing a human embryonic stem cell culture; and
- b. contacting the human embryonic stem cell culture with an inhibitor of at least one component of the gamma-secretase complex

to thereby inhibit the differentiation of the human embryonic stem cell culture for at least two passages.

63. (New) The method of Claim 62, wherein the inhibitor of at least one component of the gamma-secretase complex is N-[N-(3,5-Difluorophenacetyl-L-alanyl)]-S-phenylglycine t-Butyl Ester (DAPT).

64. (New) The method of Claim 62, wherein the differentiation of the human embryonic stem cell culture is inhibited for at least 10 passages.

65. (New) The method of Claim 62, wherein the differentiation state of the human embryonic stem cell culture is determined by expression of SSEA4 and Notch1 in at least approximately 60% of the cells.

66. (New) The method of Claim 62, wherein less than approximately 20% of the human embryonic stem cells express HNF4alpha after approximately 10 passages.

67. (New) The method of Claim 62, wherein the inhibitor of at least one component of the gamma-secretase complex inhibits Notch signaling in the human embryonic stem cells.

68. (New) The method of Claim 62, wherein the DAPT is used at a concentration of 50 μ M.